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EXAMINER

WEATHERBY, ELLSWORTH

ART UNIT	PAPER NUMBER
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3768

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02/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,406	Applicant(s) STOLLER ET AL.	
	Examiner ELLSWORTH WEATHERBY	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 32-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: Soo et al., Prone Table Stereotactic Breast Biopsy:
Facilitating Biosy of Posterior Lesions Using the Arm-Through-the-
Hole Technique, September 1998, American Journal of
Roentgenology, 171, 615-617.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group 1: claims 1-28 and 32-36 in the reply filed on 11/19/2007 is acknowledged.

Response to Arguments

1. Applicant's arguments filed 08/02/2007 have been fully considered but they are not persuasive.
2. Applicant alleges in page 15 of the arguments filed 08/02/2007 that Siczek proposes using two-dimensional information from each of two distinct stereotactic images of a breast to determine three-dimensional coordinates of a selected location of interest within said breast while acknowledging that Siczek discloses that one of the dimensions may be the same in the two images before parallax correction (see column 14 lines 37-59). Applicant further alleges that Siczek fails to disclose any recognition that some beneficial use may be made of such observation and that a person of ordinary skill in the art at the of the invention would have been led by Siczek to use two-dimensional information derived from one stereotactic image and separately derived two-dimensional information from another stereotactic image in order to control a needle for biopsy citing column 15 lines 32-55. First, it is not apparent from Applicant's citation which point from the list of points 209, 211 and 213 that Applicant believes the parallax correction procedure is performed upon. Thus, the examiner shall reiterate the previous

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rejection. To clarify, Siczek teaches displaying a first image derived from a first view (208), selecting a location the first image with a reference mark [target symbol] (211 or 213) and computer-generating a pair of coordinates related to the selected location (col. 15, ll. 16-20); displaying a second image derived from the second view (210), selecting a first line that began at the focal point of the X-ray, traveled through the patient's breast, and ended on the surface of the X-ray film at point 209 [marker line symbol] on the second image to digitize raw coordinates into film coordinates (col. 14, ll. 47-54; 15, l. 34-col. 16, l. 22), and computer-generating a single coordinates related to the selected first marker line symbol on the second image (col. 15, l. 56- col. 16, l. 22). That is, using standard principles of analytical geometry, the endpoints of two lines are measured with respect to the same reference the point of intersection in X, Y, Z space is determined analytically using standard principles of analytical geometry.

3. Applicant further argues that the claimed uses only one-dimensional information from one image in a way that beneficially interacts with two-dimensional information derived from another image. The examiner stands that Siczek teaches this invention (discussed above), and further notes that, the claim language, "computer-processing ... the one-dimensional information." and "said computer processing ... said single coordinate." does not exclude one dimensional processing of two dimensional data. As noted above the Examiner maintains the previous grounds of rejection because the examiner stands that Siczek teaches the claimed invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 29-30 and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Siczek et al. (U.S. Patent No. 5,803,912).

Regarding claims 29-30, Siczek et al. '912 teaches a method comprising: taking two stereo x-rays views of a compressed and immobilized breast of a patient (col. 14, lines 37-40); displaying two stereo images derived from the two stereo views; marking a location on each displayed image related to an abnormality seen on each (col. 10, lines 39-67; col. 11, lines 1-9); computer-generating two pairs of coordinates, each pair related to a respective one of the marks (col. 10, lines 57-63); computer-processing the two pairs of coordinates to calculate positional information related to a pair of conceptual lines passing through the breast and to calculate a least distance between the lines (col. 10, lines 39-67; col. 11, lines 1-9); providing a live display of information related to said least distance (col. 10, lines 63-65); re-marking at least one of the displayed images to produce a new set of pairs of coordinates and using said new set in said computer-processing to calculate and display a new least distance, and selectively

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repeating said re-marking and computer-processing of new sets of pairs to reduce said least distance (col. 10, lines 39-67; col. 11, lines 1-9); and using information regarding the conceptual lines and the currently calculated least distance to guide a needle stage relative to the breast (col. 11, lines 10-28). Siczek et al. '912 also teaches that at least the upper body of the patient is prone while the x-ray views are taken (col. 3, lines 3-7).

Regarding claim 37-38, Siczek et al. '912 teaches a system comprising: a breast platform and a compression plate movable relative to each other under the table to compress and immobilize a breast of a patient (12; col. 11, lines 54-61; col. 12, lines 60-67); an x-ray receptor at one side of the platform and plate and an x-ray source at the other side, said receptor and source mounted for rotation about the platform and breast to image the breast in views taken at different angles (col. 11, lines 29-67; col. 12, lines 1-11); a needle guidance stage selectively positioned between the x-ray source and the breast and carrying a needle pointing to the compressed breast (col. 15, lines 56-67); a display for x-ray images derived from said views and a marking device for selecting and marking a location of interest on each of the images (col. 10, lines 39-63); a computer coupled with the marking device and responsive to said selection of locations to produce two pairs of coordinates, each pair related to a respective selected locations (col. 10, lines 39-63); said computer processing said two pairs of coordinates calculate, in three dimensions, at least two locations in the breast and to calculate at least one least distance between said locations in the breast (col. 10, lines 39-63); a display device providing a live display of information related to said at least one least distance

(col. 10, lines 63-65); and said computer being configured to provide information to said needle guidance stage, based in part on information relating to said at least one least distance, for positioning the needle guidance stage relative to the breast and for a depth of insertion of a needle into the breast (col. 10, lines 65-67; col. 11, lines 1-9). Siczek et al. '912 also teaches that the computer is configured to respond to a new selection of a location on at least one of the images to recalculate the at least one least distance and display the recalculated result on the display of results (col. 10, lines 39-65). Siczek et al. '912 also teaches that at least the upper body of the patient is in a prone position (col. 3, lines 3-7).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. '912 in view of Berestov (U.S. Patent No. 6,222,904).

Siczek et al. '912 teaches a method comprising: taking a first x-ray view and a second x-ray view of a patient's breast compressed and immobilized between a breast platform and a breast plate having a biopsy opening (col. 2, lines 17-23; col. 3, lines 8-11), using an x-ray receptor, each of said views being taken from a different angle

relative to the breast platform (col. 3, lines 12-16); displaying a first image derived from the first view, selecting a location on the first image with a target symbol, and computer-generating a pair of coordinates related to the selected location (col. 3, lines 14-16); computer-processing the pair of coordinates to generate information that defines a first conceptual line in space passing through a target in the breast related to the selected location in the first image (col. 15, lines 45-55); displaying a second image derived from said second view, selecting a first marker line symbol on the second image, and computer-generating a first single coordinate related to the selected first marker line symbol on the second image and computer-processing the first single coordinate to define a first conceptual plane that passes through the breast and intersects said conceptual line at a first intersection (col. 14, lines 16-67; col. 15, lines 1-55); and controlling a needle guidance stage relative to the breast in accordance with positional information related to said first conceptual line and first conceptual plane (col. 15, lines 55-67; col. 16, lines 1-22).

Siczek et al. '912 teaches all the limitations of the claimed invention except for expressly teaching using a digital x-ray receptor.

In the same field of endeavor, Berestov '904 teaches using a digital x-ray receptor (col. 3, lines 26-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 in view of Berestov '904. The motivation to modify Siczek et al. '912 in view of Berestov '904 would have been to provide instantaneous imaging to give the most current diagnostic data to the operator.

8. Claims 2-11, 13-14, 16-20, and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. 912 in view of Berestov '904 and Soo et al. (American Journal of Roentgenology 1998; 171:615-617 0361-803X/98/1713-615).

Regarding claims 2-11, Siczek et al. '912 teaches a method comprising taking a primary scout x-ray view (col. 11, lines 54-56) and a first stereo x-ray view (col. 11, lines 57-61) of a compressed and immobilized breast of a patient using an x-ray receptor (col. 2, lines 17-23; col. 3, lines 8-16); displaying a first stereo image derived from said first stereo view (col. 13, lines 66-67; col. 14, lines 1-6), selecting a first marker line symbol on the stereo image, and computer-generating a first single coordinate related to the selected first marker line symbol on the first stereo image (col. 3, lines 14-16); computer-processing the first single coordinate to derive information related to a first conceptual plane that passes through said target in the breast and intersects said conceptual line at a first intersection (col. 14, lines 40-59; col. 15, lines 45-55); and controlling a needle guidance stage relative to the breast in accordance with positional information related to said first conceptual line and first conceptual plane (col. 15, lines 56- 67; col. 16, lines 1-23); Siczek et al. '912 also teaches taking a second stereo x-ray view, displaying a second stereotactic x-ray view (col. 13, lines 66-67; col. 14, lines 1-2), selecting a second marker line symbol on the second stereo image (col. 14, lines 40-59), computer-generating a second single coordinate related to the selected second line symbol (col. 14, lines 49-59), computer processing the second single coordinate related

to the selected second line symbol (col. 15, lines 45-55), computer-processing the second single coordinate to derive information related to a second conceptual plane that passes through the target in the breast and intersects the first conceptual line at a second intersection (col. 15, lines 45-55), wherein the controlling step comprises controlling the needle guidance stage relative to the breast in accordance with positional information regarding each of the conceptual line, first conceptual plane and second plane (col. 15, lines 45-55). Siczek et al. '912 also teaches that the first and second conceptual planes intersect at a second conceptual line, and that controlling of the needle guidance stage in accordance with positional information regarding each of the conceptual line, first conceptual plane and second conceptual plane (col. 15, lines 56-67; col. 16, lines 1-23). Siczek et al. '912 also teaches that the first and second conceptual planes intersect at a second conceptual line, and the controlling of the needle guidance stage in accordance with positional information regarding the first conceptual line and the first and second conceptual planes comprises controlling the needle guidance stage in accordance with positional information regarding the first and second conceptual lines (col. 15, lines 56-67; col. 16, lines 1-22). Siczek et al. '912 also teaches inputting information regarding additional targets and computer-processing the information to provide information for controlling the needle guidance stage in relation to the targets (col. 10, lines 37-65). Siczek et al. '912 further teaches that the upper body of the patient is prone while the x-ray views are taken (col. 3, lines 3-7). Siczek et al. '912 also teaches computer processing positional information regarding said first and second conceptual lines to find a least distance between the first and second

conceptual lines, and providing a live display of information regarding said least distance (col. 10, lines 39-67) and further that the controlling comprises controlling the needle guidance stage in accordance with positional information regarding said least distance (col. 11, lines 11-28). Siczek et al. '912 further teaches selecting at least one of a new location on an image and a new marker line symbol on at least one of the stereo images and computer-processing information related to the new selection, wherein making the new selection comprises using information from said live display of said least distance (col. 10, lines 39-67). Siczek et al. '912 also teaches making new selections by moving the old selections to reduce the least distance (col. 10, lines 52-65). Siczek et al. '912 further teaches inputting information regarding additional targets and computer-processing said information to provide information for controlling the needle guidance stage in relation to said targets (col. 10, lines 65-67; col. 11, lines 1-9). Siczek et al. '912 also teaches that at least the upper body of the patient is prone while the x-ray views are taken (col. 3, lines 3-7).

Siczek et al. '912 teaches selecting a location on an image with a target symbol and computer generating a pair of coordinates related to the location and computer processing the pair of coordinates related to a conceptual line in space that passes through the target in the breast related to the selected location in the image (col. 14, lines 40-59; col. 15, lines 45-55). Siczek et al. '912 also teaches acquiring a scout image (col. 11, lines 54-61). However, Siczek et al. '912 does not expressly teach displaying a scout image derived from the scout view, selecting a location on the scout image with a target symbol, and computer-generating a pair of coordinates related to

the selected location and computer-processing the pair of coordinates to derive information related to a first conceptual line in space that passes through a target in the breast related to the selected location in the scout image. Siczek et al. '912 also does not teach that the x-rays are acquired using a digital x-ray receptor.

In the same field of endeavor, Berestov '904 teaches using a digital x-ray receptor (col. 3, lines 26-32).

Siczek et al. '912 in view of Berestov '904 teaches all the limitations of the claimed invention except for teaching selecting a location on the scout image with a target symbol, and computer-generating a pair of coordinates related to the selected location and computer-processing the pair of coordinates to derive information related to a first conceptual line in space that passes through a target in the breast related to the selected location in the scout image.

In the same field of endeavor, Soo et al. teaches a target-on-scout stereotactic system that calculates lesion coordinates from a scout image and a single unobstructed stereo image (pg. 617, col. 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 with Berestov '904 and Soo et al. The motivation to modify Siczek et al. '912 with Berestov '904 and Soo et al. would have been to provide instantaneous imaging, as well as allow imaging in instances when the shoulder would obstruct the stereo view, as taught by Soo et al (pg. 617, col. 2).

Regarding claims 13-14 and 16-20, Siczek et al. '912 teaches a method comprising: taking a scout x-ray view (col. 11, lines 54-61) and one or more stereo x-ray views of a compressed and immobilized breast of a patient (col. 2, lines 17-23; col. 3, lines 8-11) using an x-ray receptor to receive x-rays passing through the breast (col. 11, lines 29-67; col. 12, lines 1-11); displaying one or more stereo images derived from respective one or more stereo views, on a computer monitor (col. 13, lines 66-67; col. 14, lines 1-2); selecting a plane crossing at least one of the one or more stereo images with a second symbol displayed on the at least one stereo image (col. 14, lines 37-59; col. 15, lines 56- 67); computer-generating one-dimensional information regarding the selected plane (col. 14, lines 37-59; col. 15, lines 16-44); computer-processing the two-dimensional information from a stereo image (col. 15, lines 45-55) and the one-dimensional information from the at least one stereo image to produce three-dimensional information regarding a target in the breast related to both said two-dimensional and said one-dimensional information (col. 14, lines 43-59; col.15, lines 45-55); and providing information regarding the target to a needle guidance stage and controlling the needle guidance stage accordingly (col. 15, lines 56-67; col. 16, lines 1-22). Siczek et al. '912 further teaches that the upper body of the patient is prone while the x-ray views are taken (col. 3, lines 3-7). Siczek et al. '912 also teaches selecting a plane from each of at least two stereo images (col. 14, lines 37-59; col. 15, lines 56- 67; col. 16, lines 1-23). Siczek et al. '912 further teaches that the computer processing is operable to produce three-dimensional information regarding at least two targets in the breast (col. 10, lines 39-67; col. 11, lines 1-9), and further the computer processing

displays information relating to the two targets and responding to a selection of at least one of a different location on the displayed stereo image and a different plane on at least one displayed stereo image to change the displayed information relating to the two targets (col. 10, lines 39-67; col. 11, lines 1-9). Siczek et al. '912 also teaches inputting information regarding additional targets and computer-processing the information to provide information for controlling the needle guidance stage in relation to the additional targets (col. 11, lines 10-28).

Siczek et al. '912 teaches acquiring a scout view (col. 11, lines 54-61). However, Siczek et al. '912 does not expressly teach displaying a scout image derived from the scout view and selecting a location on the displayed scout image with a manually controlled first symbol displayed on the scout image. Siczek et al. '912 also does not expressly teach computer-processing two-dimensional information from the scout image. Siczek et al. '912 also does not expressly teach using a digital x-ray receptor.

In the same field of endeavor, Berestov '904 teaches using a digital x-ray receptor (col. 3, lines 26-32).

Siczek et al. '912 in view of Berestov '904 teaches all the limitations of the claimed invention except for teaching displaying a scout image derived from the scout view and selecting a location on the displayed scout image with a manually controlled first symbol displayed on the scout image. Siczek et al. '912 in view of Berestov '904 also does not expressly teach computer-processing two-dimensional information from the scout image.

In the same field of endeavor, Soo et al. teaches a target-on-scout stereotactic system that calculates lesion coordinates from a scout image and a single unobstructed stereo image (pg. 617, col. 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 with Berestov '904 and Soo et al. The motivation to modify Siczek et al. '912 with Berestov '904 and Soo et al. would have been to provide instantaneous imaging, as well as allow imaging in instances when the shoulder would obstruct the stereo view, as taught by Soo et al (pg. 617, col. 2).

Regarding claims 22-27, Siczek et al. '912 teaches a method of orienting a needle guidance stage relative to a compressed immobilized breast of a patient and controlling needle depth for insertion into the breast using two-dimensional information regarding an area of interest seen in an x-ray image and one dimensional information regarding an area of interest seen in each of one or more stereo x-ray images of the breast, comprising: using an x-ray source and an x-ray receptor to image a compressed and immobilized breast of a patient in a scout view and one or more respective stereo images derived from the one of the stereo views (col. 3, lines 3-21; col. 11, lines 54-65), and deriving two-dimensional information regarding an area of interest seen on the one or more stereo images (col. 14, lines 22-26; col. 15, lines 1-15); displaying an image derived from the stereo views, and deriving two-dimensional information two-dimensional information regarding an area of interest seen on the scout view and one-dimensional information regarding an area of interest seen on the one or more stereo

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images (col. 10, lines 39-46); computer processing the two-dimensional information from the scout image and the one-dimensional information from each of the one or more stereo images to position a needle guidance stage relative to the breast and control needle depth for insertion into the breast (col. 5, lines 1-13; col. 10, lines 39-67; col. 11, lines 1-9). Siczek et al. '912 also teaches that information derived from the stereo views defines at least two targets or loci of targets in three-dimensional space in the breast, and the computer processing includes calculating and displaying a least distance between at least two of the targets or loci, and deriving new information regarding the areas of interest from at least one of the stereo images and computer-processing the newly derived information to calculate a new set of targets or loci and at least one new, reduced least distance (col. 10, lines 39-67; col. 11, lines 1-28). Siczek et al. '912 also teaches deriving two-dimensional information from at least one of the stereo views, and wherein said computer-processing of information from the scout image and the one or more stereo images comprises calculating at least two targets or loci of targets, and further calculating information regarding at least one least distance between said targets or loci and providing a display of results related to the least distance calculation (col. 10, lines 39-67; col. 11, lines 1-28). Siczek et al. '912 further teaches that the display of results comprises information defining a current value of the least distance and that the current value in the display of results changes in response to newly derived two-dimensional or one-dimensional information (col. 10, lines 63-65). Siczek et al. '912 also teaches that the patient is prone while the x-ray views are taken (col. 3, lines 3-7).

Siczek et al. '912 teaches all the limitations of the claimed invention except for expressly teaching controlling a needle depth for insertion into the breast using two-dimensional information regarding an area of interest seen in a scout view. Siczek et al. '912 also does not expressly teach using a digital x-ray receptor and determining spatial information from the scout view and digital x-ray imagery.

In the same field of endeavor, Berestov '904 teaches using a digital x-ray receptor (col. 3, lines 26-32).

Siczek et al. in view of Berestov '904 teaches all the limitations of the claimed invention except for expressly teaching using an x-ray source and to image a breast in a scout view and deriving and computer processing two-dimensional information regarding an area of interest seen on the scout view.

In the same field of endeavor, Soo et al. teaches a target-on-scout stereotactic system that calculates lesion coordinates from a scout image (pg. 617, col. 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 with Berestov '904 and Soo et al. The motivation to modify would have been to provide instantaneous imaging as well as allow imaging in instances when the shoulder would obstruct the stereo view, as taught by Soo et al (pg. 617, col. 2).

9. Claims 12, 15, 21, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. '912 in view of Berestov '904 and further in view of Soo et al. as applied to claims 10, 13, 19 and 26 above, and further in view of Chen (U.S. Patent No. 4,875,478).

Regarding claim 12, Siczek et al. '912 in view of Berestov '904 and Soo et al. teaches all the limitations of the claimed invention except for expressly teaching that the patient is upright while the x-ray views are taken.

In the same field of endeavor, Chen '478 teaches as prior art performing mammographic procedures while the upper body of a patient is upright (col. 4, lines 14-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 in view of Berestov '904 and Soo et al. with Chen '478. The motivation to modify Siczek et al. '912 in view of Berestov '904 and Soo et al. with Chen '478 would have been to improve patient comfort or provide more maneuverability for diagnostic and biopsy tools.

10. Claims 31 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. '912 as applied to claims 29 and 37 above, and further in view of Chen '478.

Siczek et al. '912 teaches all the limitations of the claimed invention except for expressly teaching that the patient is upright while the x-ray views are taken.

In the same field of endeavor, Chen '478 teaches performing mammographic procedures while the upper body of a patient is upright (col. 4, lines 14-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 with Chen '478. The motivation to modify Siczek et al. '912 with Chen '478 would have been to improve patient comfort or provide more maneuverability for diagnostic and biopsy tools.

11. Claim 32-36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. '912 in view of Berestov '904.

Siczek et al. '912 teaches a system comprising: a breast platform and a compression plate movable relative to each other to compress and immobilize a patient's breast between them (col. 12, lines 60-67); an x-ray receptor at one side of the platform and plate, and an x-ray source at the other side, said receptor and source mounted for rotation about the platform to image the breast from multiple angles (col. 11, lines 29-51); a needle guidance stage selectively positioned between the x-ray source and the breast and carrying a needle oriented transversely to a plane conforming to a main plane of the compressed breast (col. 15, lines 56-67; col. 16, lines 1-22); a computer coupled with the x-ray receptor to receive x-ray exposure information therefrom for at least two different views of the breast taken at different angles and to generate image information for corresponding images (col. 14, lines 22-25); a computer monitor coupled with said computer to receive said image information and display images derived therefrom (col. 10, lines 43-46); at least one marking device coupled

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with said computer to selectively place a first marker at a location in a first one of said displayed images and a second marker at a line on a second one of said displayed images to mark a plane intersecting the image (col. 10, lines 39-67; col. 14, lines 37-59); said computer responding to said marking to produce a coordinate pair related to the marked location on the first image but only a single coordinate related to the plane marked on the second image (col. 15, lines 16-44); said computer processing said pair of coordinates from the first image and said single coordinate from the second image to calculate a location of a target in the breast and provide information for positioning the needle guidance stage relative to the breast and for depth of insertion of a needle into the breast (col. 15, lines 45-62). Siczek et al. '912 also teaches computer is configured to respond to said marking to calculate at least two positions or loci of positions of a target in the breast, and further to calculate at least one least distance between said positions or loci in the breast and provide information related thereto to said monitor, and wherein said monitor displays information regarding said at least one least distance in a live display (col. 10, lines 63-65). Siczek et al. '912 also teaches that the computer is configured to respond to new marks on at least one of said scout and stereo images to recalculate said at least one least distance and display recalculated results related thereto on said monitor (col. 10, lines 63-65). Siczek et al. '912 further teaches that computer is configured to provide said information for positioning the needle guidance system and for selecting needle depth based in part on said calculated least distance (col. 2, lines 6-16).

Siczek et al. '912 does not expressly teach a digital x-ray receptor at one side of the platform and plate.

In the same field of endeavor, Berestov '904 teaches using a digital x-ray receptor (col. 3, lines 26-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siczek et al. '912 with Berestov '904. The motivation to modify Siczek et al. '912 with Berestov '904 would have been to provide instantaneous imaging.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLSWORTH WEATHERBY whose telephone number

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is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW

/Brian L Casler/
Supervisory Patent Examiner, Art Unit 3737